

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-8 (Canceled).

Claim 9 (Currently Amended): A method for making a non-linear inductor comprising the steps of:

providing a plurality of first laminations of magnetic material, each of said first laminations having a first leg with an edge and at least one other leg;

providing a plurality of second laminations of magnetic material, each of said second laminations having the same predetermined shape;

stacking said first laminations to produce a first stack with a first leg portion and at least one other leg portion, said first leg portion comprising the first legs and said at least one other leg portion comprising the at least one other legs;

stacking said second laminations to produce a second stack;

disposing the first stack adjacent to the second stack so as to form an air gap with two or more different widths between the first leg portion of the first stack and the second stack;

disposing a winding around the first leg portion or the at least one other leg portion of the first stack; and

adjusting the configuration of said air gap to produce a desired non-linear inductance characteristic for said inductor;

wherein in a first predetermined number of said first laminations, the first leg has a first length and in a second predetermined number of said first laminations, the first leg has a second length, said first and second lengths being different; and

wherein the step of adjusting the configuration of the air gap comprises adjusting the arrangement of said first predetermined number of said first laminations having said first length and said second predetermined number of said first laminations having said second length in said first stack to produce the desired non-linear inductance characteristic for said inductor.

Claims 10-21 (Canceled).

Claim 22 (Previously Presented): The method of claim 9, wherein the air gap comprises a first portion having a first width and a second portion having a second width, said first and second widths being different.

Claim 23 (Previously Presented): The method of claim 22, wherein the step of adjusting the configuration of the air gap comprises adjusting the width of one of the first and second portions of the air gap.

Claim 24 (Currently Amended): The method of claim 22 wherein the step of adjusting the configuration of the air gap comprises adjusting the a length of one of the first and second portions of the air gap.

Claim 25 (Currently Amended): ~~The method of claim 22,~~ A method for making a non-linear inductor comprising the steps of:

providing a plurality of first laminations of magnetic material, each of said first laminations having a first leg with an edge and at least one other leg;

providing a plurality of second laminations of magnetic material, each of said second laminations having the same predetermined shape;

stacking said first laminations to produce a first stack with a first leg portion and at least one other leg portion, said first leg portion comprising the first legs and said at least one other leg portion comprising the at least one other legs;

stacking said second laminations to produce a second stack;

disposing the first stack adjacent to the second stack so as to form an air gap with two or more different widths between the first leg portion of the first stack and the second stack;

disposing a winding around the first leg portion or the at least one other leg portion of the first stack; and

adjusting the configuration of said air gap to produce a desired non-linear inductance characteristic for said inductor;

wherein the air gap comprises a first portion having a first width and a second

portion having a second width, said first and second widths being different; and
wherein the air gap further comprises a third portion having the first width, and
wherein said second portion is disposed between the first and third portions.

Claim 26 (Previously Presented): The method of claim 25, wherein the second portion of the air gap is located midway along the depth of the first stack in the stacking direction.

Claim 27 (Previously Presented): The method of claim 25, wherein the first width is greater than the second width.

Claim 28 (Previously Presented): The method of claim 25, wherein the second portion of the air gap extends the entire depth of the first stack in the stacking direction.

Claim 29 (Currently Amended): The method of claim ~~40~~ 22, wherein each of the first laminations is E-shaped and includes a center leg disposed between a pair of end legs, said center leg being the first leg and said end legs being the at least one other leg; and

wherein the first stack comprises a center leg portion disposed between a pair of end leg portions, said center leg portion being the first leg portion of the first stack and said end leg portions being the at least one other leg portion of the first stack.

Claim 30 (Currently Amended): ~~The method of claim 22;~~ A method for making a non-linear inductor comprising the steps of:

providing a plurality of first laminations of magnetic material, each of said first laminations having a first leg with an edge and at least one other leg;

providing a plurality of second laminations of magnetic material, each of said second laminations having the same predetermined shape;

stacking said first laminations to produce a first stack with a first leg portion and at least one other leg portion, said first leg portion comprising the first legs and said at least one other leg portion comprising the at least one other legs;

stacking said second laminations to produce a second stack;

disposing the first stack adjacent to the second stack so as to form an air gap

with two or more different widths between the first leg portion of the first stack and the second stack;

disposing a winding around the first leg portion or the at least one other leg portion of the first stack; and

adjusting the configuration of said air gap to produce a desired non-linear inductance characteristic for said inductor;

wherein the air gap comprises a first portion having a first width and a second portion having a second width, said first and second widths being different; and

wherein the first laminations each have the same predetermined shape, wherein in each of the first laminations, the edge of the first leg is a stepped edge, and wherein the step of stacking the first laminations comprises aligning the stepped edges of the first legs to form a stepped end of the first leg portion of the first stack.

Claim 31 (Previously Presented): The method of claim 30, wherein each of the first laminations is E-shaped and includes a center leg disposed between a pair of end legs, said center leg being the first leg and said end legs being the at least one other leg; and

wherein the first stack comprises a center leg portion disposed between a pair of end leg portions, said center leg portion being the first leg portion of the first stack and said end leg portions being the at least one other leg portion of the first stack.

Claim 32 (Currently Amended): The method of claim ~~22~~ 25, wherein each of the first laminations is E-shaped and includes a center leg disposed between a pair of end legs, said center leg being the first leg and said end legs being the at least one other leg; and

wherein the first stack comprises a center leg portion disposed between a pair of end leg portions, said center leg portion being the first leg portion of the first stack and said end leg portions being the at least one other leg portion of the first stack.

Claim 33 (Currently Amended): The method of claim ~~32~~ 31, wherein the first and second portions of the air gap are arranged adjacent to each other in the direction between the end leg portions of the first stack.

Claim 34 (Currently Amended): The method of claim ~~32~~ 29, wherein the first and second portions of the air gap are arranged adjacent to each other in the stacking direction of the first laminations.

Claim 35 (Previously Presented): The method of claim 32, wherein the winding is disposed around the center leg portion of the first stack.

Claim 36 (Previously Presented): The method of claim 32, wherein each of the second laminations is I-shaped, and wherein the first stack is disposed adjacent to the second stack such that end portions of the second stack adjoin the end leg portions of the first stack, respectively.

Claim 37 (Previously Presented): The method of claim 32, wherein the air gap extends uninterrupted between the center leg portion of the first stack and the second stack for the entire width of the center leg portion of the first stack.

Claim 38 (New): The method of claim 29, wherein the winding is disposed around the center leg portion of the first stack, wherein each of the second laminations is I-shaped, and wherein the first stack is disposed adjacent to the second stack such that end portions of the second stack adjoin the end leg portions of the first stack, respectively.

Claim 39 (New): The method of claim 31, wherein the winding is disposed around the center leg portion of the first stack, wherein each of the second laminations is I-shaped, and wherein the first stack is disposed adjacent to the second stack such that end portions of the second stack adjoin the end leg portions of the first stack, respectively.